



The Future of Sports Data



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Foreword

Data is now one of the most valuable resources around. But data is no longer something that languishes in a database to be looked at later. Like sports events, data is now live.

The sports industry has been quick to implement live features to harness this data. The past decade has seen an increase in official scoring systems that provide media outlets and bookmakers the data they need to serve a new breed of sports consumer, one that demands live digital experiences to accompany live physical ones.

Enabled by efficiency in data transfer, the rise of in-play betting has resulted in a shift from what commentators have dubbed 'discontinuous' to 'continuous' bet-waging. Being as likely to bet on second-by-second action as on the overall result of a game, race or match, the average sports fan now expects instant updates on a number of different data feeds - playing out simultaneously - as standard.

For data providers, the stakes here are high. Our research found 63% of UK bettors would switch to a different app if they lost an in-play bet as the result of incorrect stats. Further raising the stakes is the legislative spotlight, now trained firmly on the integrity of sports data following a wave of investigations last year.

But when it comes to distributing sports data in realtime, few companies have made the technical leap required. The current state of play is that sports data and its delivery is ruled by the commercial agreements in place for providing data, rather than technical specifications that would guarantee speed, accuracy and reliability.

Based on our research, we believe that, to be future-proof, sports data transfer models must cut unnecessary technical intermediaries and use scalable systems that guarantee capacity and availability and provide the shortest possible transfer route from source to end-user.

With the growth in the volume and usage of data, reliability is key. It is our view that shared data-transfer infrastructure will be key in solving common problems in the sports data industry, namely minute-to-minute bursts in consumer demand, unauthorised use of content and inefficiencies in the transfer chain. A reliable infrastructure allows everyone to focus their efforts on maximizing the value and application of the data, rather than its transport.

The sports industry continues to be a trailblazer in creating next generation online experiences. We're excited to release this research as it confirms what we believe - that not only can the sports industry reap and build on innovations in the realtime data space, but also that there is a commercial imperative driven by changing fan behaviour.



Matthew O'Riordan
Founder and CEO Ably

Ably's

Executive Summary

The Future of Sports Data report is based on a study of sports fan behaviour in the UK and US, interviews with industry leaders and desk research on trends and developments in the market.

The key findings are split across four sections: the opportunity of sports engagement shifting online, the threat of demanding consumers, overcoming the challenge of existing systems, and essential points for moving forward in the future.

The Opportunity: Sport happens online

- Changes in media consumption threaten traditional methods of engagement, particularly television.
 - 81% of those that pay to watch sports are at risk of no longer paying to do so if prices increase.
 - NFL has seen some games such as Sunday Night Football decrease by 19% in just two years, while the UK Premier League has experienced similar shortfalls.
- Research of sports fans shows that they are engaging with sports on their smartphones across a number of often data-intensive activities.
 - 72% check scores on their smartphone, while 56% view team and/or player stats and 54% watch sports on their device. 34% discuss sports via social media.
- Smartphone adoption and regulatory change (in particular, the repeal of PASPA in the US) will lead to significant opportunities in betting, particularly for in-game wagers.
 - While 41% of UK fans place bets on their smartphone, only 17% in the US currently do so. It is expected that US bettors that currently place money on offshore sites will bring some of that spend back, while casual punters may divert spend from casinos and racetracks to bets via their mobile.
- The growing sports tech ecosystems will not only serve fan engagement through data. Sports science, medicine and engineering will stand to benefit at elite levels, while amateur leagues and fitness enthusiasts incorporate data as part of their play.

The Threat: Consumers expect a lot

- Sports fans and bettors suffer from widespread frustrations when using applications that are dependent on real-time data.
 - 84% of fans have experienced an issue while using a smartphone for sports.
 - 59% resort to refreshing the page or screen, while 43% turn to a different site or app.
 - 63% of UK bettors would switch to a different app if they lost an in-play bet as the result of incorrect stats.

The Challenge: Can existing systems cope?

- Significant parts of the sports industry are behind the curve when it comes to making use of data. Experts expressed a view that some suffer from a 'mom and pop' mentality while a 'magpie syndrome' may lead to adoption of new technology without understanding how to apply it effectively.
- Scaling data loads creates issues for more advanced organisations, both in terms of infrastructure and management challenges.
- As both the volume of data and technological potential changes exponentially, organisations in general tend to have more of a gradual change.
- Where official data providers are in place, they're struggling to combat issues such as courtsiding due to high-latency data delivery routes.

How to move forwards

- Innovation using sports data is currently too challenging, threatening the ability of the industry to keep up. The sports industry will need to adapt and rethink how data can be used to power entertainment in a different consumer landscape.
- Shared standards typically take years to come to fruition. As a result, efficiencies will need to come from infrastructure that reduces the need for publishers to create direct connections to all their clients. Data hubs and exchanges are the most obvious way of achieving this. They free up time and resource for new data products, democratise access to data for independent developers and deliver the speed that sports fans expect.
- The more effective commercialisation of data will come from decoupling rights from television broadcast, focusing on an overall 'entertainment mindset', mitigating data piracy through data fingerprinting, and creating an open environment that helps to drive innovation from the ground up.

Methodology and Acknowledgements

601 sports fans (401 UK, 200 US) were surveyed via an online panel to understand how they engage with sports online. This consisted of four short surveys of three questions each delivered to their smartphones via OnePulse.

Eight semi-structured interviews were conducted with industry leaders to ask for their thoughts on the Future of Sports Data. The interviews were transcribed (consisting of around 27,000 words of text in total) and coded to identify key themes and points of importance. Their quotes have been approved.

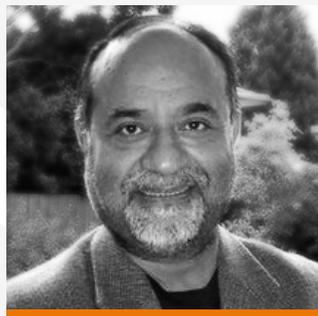
Desk research was also conducted to put the findings into a wider context.

Big thanks to...

Aby would like to thank OnePulse for its support in running the survey for providing the data, and also the following individuals for their support and participation in the research:



Scott Gimpel
President and CEO,
Fantasy Data



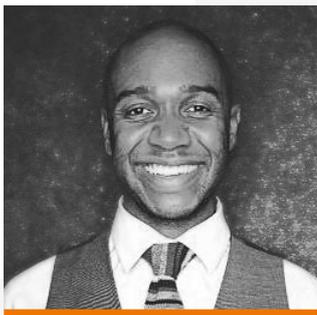
Arun Khanna
Managing Director,
Infoplum



Jakob Hageman
Founder, Kiggit



Matt Davey
CEO, Scientific Games



Mark Philip
CEO and Founder, Are
You Watching This?



Rajesh D'Souza
Data Sports Group



Ben Davis
CEO, Phizzle



Michael Cole
CEO, The European
Tour

The Opportunity: Sport happens online

Before the internet and broadcast television, most sports were very much a local affair, with fans viewing at the venue, most often in their own neighbourhood.

Today, sports are accessed everywhere with an estimated global worth of US\$600-\$700 billion.¹ Not only that, sports once typically associated with a particular country are now crossing over borders and expanding their fan base in other countries. A case in point, the National Football League (NFL) successfully brings American football to the UK for games every year, with three such games scheduled to play at London's Wembley Stadium in 2018.² NBC Sports has been broadcasting Premier League football in the United States since 2013.³

There is an international opportunity to expand sports into emerging markets. A good example of this is in China where 96% of the population has a positive interest in sports.⁴ They will be hosting the Winter Olympic Games in 2022. The Chinese government is also putting an emphasis on expanding sports throughout the country by making a concerted effort to grow its sports sector into a £647 billion industry by 2025.⁵

Opportunity also abounds in the world of mobile. The broad use of mobile devices, namely smartphones, has led to an always-on potential for viewing, engagement and monetisation of sports. Recent data shows that 85% of UK citizens⁶ and 77% of US citizens own a smartphone.⁷



Recent data shows that 85% of UK citizens and 77% of US citizens own a smartphone

Insight from the interviews

“ Our emphasis when building our technology platform was to be able to engage with fans or consumers instantly, while they're in a buying cycle.

As an example, right after their team scored the winning touchdown, you want to sell them a jersey.

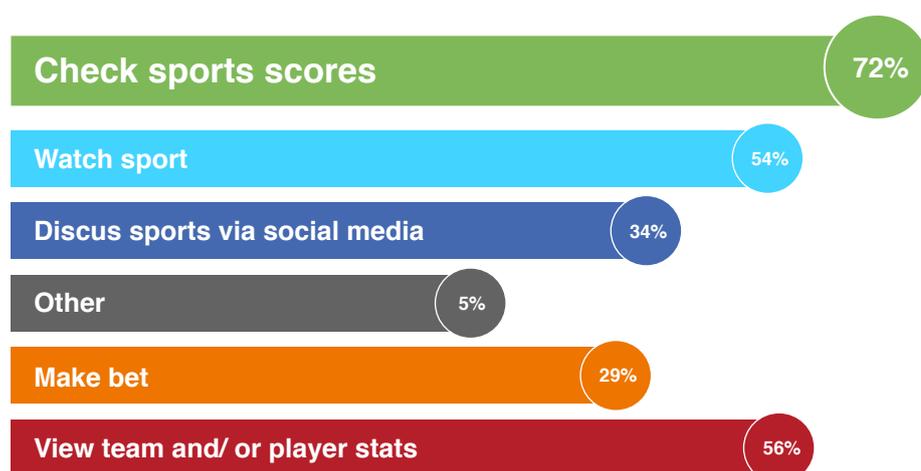
Ben Davis - CEO, Phizzle

We are already seeing how smartphone usage has changed how fans are viewing and engaging with sports. As illustrated, our research shows that 72% of respondents use their smartphones to check sports scores, 56% use them to view team and player stats and 54% are even using their smartphones to watch sports. A good number of fans (34%) are also using their smartphone to discuss sports on social media.

This engagement via smartphone provides the opportunity to engage with fans wherever they are - and to monetise that engagement.

Placing sports bets via smartphone is growing in popularity, as well. Just over a quarter (29%) of respondents use smartphones to place bets. However, when separated out by country there one difference of note. Of those respondents from the UK, 41% place bets using their smartphone while only 17% of respondents from the US are placing bets on their smartphones. While these numbers may show a barrier in mobile sports betting in the US, it also reflects the regulations that have been in place for sports betting in the country for over the past two decades. As these regulations are loosened, there is potential for the percentage mobile sports betting in the US to rise in the near future.

What sports related activities do you do on your smartphone?



Insight from the interviews

“ For bettors who throw in 20 to 25 bucks and submit, a lot of those people, they wouldn't even touch it if not for the mobile experience.

There's plenty of people who the only reason why they place the bet was because they were on the couch watching the game, they had their phone in their hands and could play without going even getting up. So mobile is obviously huge.

Scott Gimpel - President and CEO, Fantasy Data

The multi-billion dollar industry of online sports betting continues to grow. Information such as historical player statistics and in-game data can be used to help gamblers predict the outcome of a game.⁸ Real-time data that is collected during the game is very important to gambling operators. As a recent New York Times article explains, “If gambling operators are to monetize sports betting fully, they have to offer wagers on far more than the outcomes of games. Data on the second-by-second action — exactly when a goal is scored, where it landed in the net, who had the assist — creates manifold betting opportunities.”⁹

In-play betting is currently popular in the UK, and with recent regulatory change it is expected to rise in adoption in the US.¹⁰ On 14 May 2018 the US Supreme Court struck down the Professional and Amateur Sports Protection Act (PASPA) which essentially outlawed states from authorising sports betting with the exception of Nevada (which was grandfathered in).¹¹ By striking down the federal law, states can now opt to legalise sports betting.¹² Eilers & Krejcik Gaming estimates that as many as 32 states could legalise sports betting in the next five years.¹³

Insight from the interviews

“ The regulatory changes in the US won't be creating additional demand - when the PASPA Act was enforced by the federal government, preventing any additional states from having sports betting, the player didn't just go away. The player simply expressed their appetite through using offshore sports betting sites and by local bookies. It's quite a well-developed industry in the US. And, so the American Gaming Association said that they think that this black market, comprised about 150 billion in turnover. If you assume the average hold is 5% -7%, you're talking about \$7 - \$10 billion in revenue that was going through this is part of offshore or underground black market.

So what we think the opportunity is, as states start to take advantage of the fact they can now put forward legislation and regulation to regulate sports betting, we think they capture some of that black market but we don't think all of it comes over. We think that there's a certain percentage that will keep going through the existing channels. But we also think it legitimises the sport and we think it brings on the more casual punter who might not necessarily have an appetite to go through an offshore site. They will definitely be more interested in something that they can get in the local casinos and/or a racetrack, etc. We think we are the actual market will be actually bigger than the initial numbers with the AGA.

Matt Davey - CEO, Scientific Games

Considering the iPhone was only launched in 2008, this represents a rapid shift in how fans are engaging with sports. This requires the delivery of significant volumes of data to fans that are using their smartphones while away from home or engaged in other activity. This also requires the ability to accommodate peaks in demand, particularly for applications such as betting where data needs to be delivered accurately and as fast as possible.

Esports is also opening up unexpected opportunities in the future of sports. It is bringing in an international audience that is growing quickly. Newzoo reports that the esports industry will grow to US\$905.6 million this year which is 38% growth in just one year's time.¹⁴ An example of how popular esports is becoming can be seen in the viewership numbers of the 2017 League of Legends World Championships which saw peak viewership of 106 million.¹⁵ While the majority of these viewers within China, the growing popularity of esports with youths in places like the US has analysts projecting the industry will reach US\$1.4 billion by 2020.¹⁶

But it's not only sports fans that are increasing data demands. A ballooning sports tech ecosystem has emerged to serve a whole manner of different use cases, from driving the performance of elite teams and athletes, right down to children's leagues and individual fitness enthusiasts.

One example is in the field of sports coaching. It has been estimated that by 2021 sports coaching platform technology is expected to reach US\$864 million.¹⁷ As coaching platforms become the norm it has been advised that those coaches who ignore data do it to their team's detriment.¹⁸

Newzoo reports that the esports industry will grow to US \$905,6 million this year which is 38% growth in just one year's time.

Insight from the interviews

“ Sports has become a multichannel situation, where data is really being used, and delivered internationally for experiences at various levels.

It's not just getting to know the performance or the scores, which is important for engaging people in sports. It's about getting people into the arena itself, watching television, and enhancing the experience. ”

Arun Khanna - Managing Director, Infoplum

Data tracking and measurement is supporting growth throughout all levels of sport. According to Tanya Porter, International Sports Technology Association (ISTA) Vice President and director: “The sports world is turning to innovation and technologies to help with their sports performance, fan engagement and business development.” The ISTA believes that sports technology is experiencing exponential growth and has divided sports technology into four fields - sports medicine, sports science, fan engagement and sports engineering.¹⁹

These new technologies have permeated professional sports in many ways. GPS tracking takes measurements of player movements and speed to aid in player growth. Wearables track performance and provide real-time vitals to assist in decreasing injuries.²⁰ Even stadiums are getting connected with wireless technology to make it easier for fans to keep engaged during the game.²¹

Data and sports technology isn't just affecting professional sports, it also has had an impact on amateur and youth sports. An example is the GameChanger mobile app for youth baseball as well as other sports. The app generates 150 different games statistics as well as post-game recaps. It serves a variety of uses including keeping parents updated on their child's games when they are not able to attend the game, helping coaches who wish to monitor player development and allowing college and professional league scouts to track prospects.²²

Other sports technology and apps such as Game Golf and MapMyRun enable amateur sports enthusiasts to improve their performance through the use of tracking and data comparisons. This kind of technology also encourages engagement through data sharing and competitions. For sports leagues and others, these applications offer the potential to engage in ways that would not have been possible just a few years ago.

But despite these exciting times, a world of abundance has shifted expectations. While fans might be loyal to their team or favourite player, maintaining engagement within digital channels is difficult when small interruptions can cause frustration that leads to them switching off or going elsewhere.

Insight from the interviews

“ As far as I'm concerned, data has become an integral part of the digital space for sport. And it plays a very important role. While previously, no one had ideas about analytics, and now analysis is leading to various aspects, including injury management, health management, performance management... and then you're getting into sports betting, and you're getting into prediction, and it seems that everything is possible.

The whole concept of using data is now very very embedded. It's literally the most important component in the future. because fundamentally, it ties up all the aspects you have, the synergies are huge.

Arun Khanna - Managing Director, Infoplum

The Threat:

Consumers expect a lot

Recent Google data shows that 30% of US sports fans stream live sports from their smartphones or other mobile devices. Even if sports fans are watching live sports on television, 80% are still using their computer or mobile devices to search player stats, look up live scores, message other fans or watch related videos.²³ At live sports events, 75% of fans use their smartphones to watch replays.²⁴

While fans are clearly embracing using technologies such as smartphones to view and engage with their favourite sports, it is not without its frustrations. Our study respondents reported that the greatest frustration they experienced while using their smartphone for sports was that live streaming does not work well (52%). This is followed by 44% being frustrated by the website they were trying to view was too slow. Another issue was the expediency or accuracy of scores or stats provided. Of the 200 respondents, 24% were frustrated by sports scores wrong or out of date and 19% with sports stats wrong or out of date.



Frustrated, fans show a number of reactions. While the majority (59%) refreshed their screen or webpage, others were not quite so patient... 43% of respondents chose to use a different app or website when their expectations were not met.

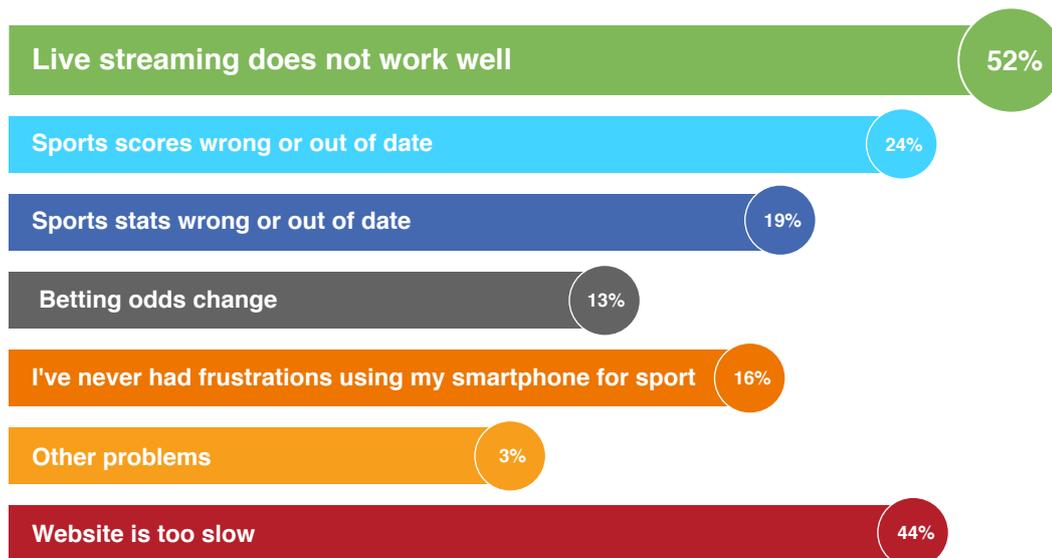
Insight from the interviews

“ The thing with sports fans is that they require content that is easy to consume, easy to understand. It's should be quite instant - really fast - just after the event has taken place. The kind of content they require allows them to quickly understand what's happening in the game. ”

Rajesh D'Souza - Data Sports Group

When frustrated, fans show a number of reactions. While the majority (59%) refreshed their screen or webpage, others were not quite so patient. Some (32%) stopped using their phone or put it down and others (28%) swore or cursed out loud. However, a statistic worth noting is that 43% of respondents chose to use a different app or website when their expectations were not met.

What frustrations have you experienced while using your smartphone for sports?



Note: respondents could select more than one option, with the exception of "I've never had frustrations using my smartphone for sports."

Insight from the interviews

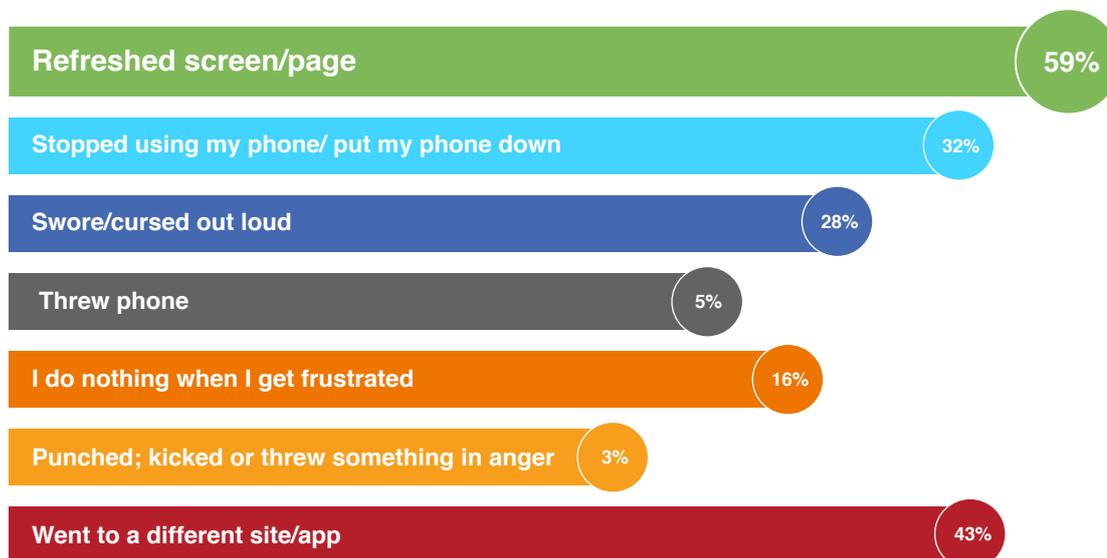
“ I watch sports for a living. I couldn't tell you the last time I watched a baseball game from beginning to end.

I think going forward as people continue to cut the cord, things will change.

Mark Philip - CEO and Founder, Are You Watching This

For betting, a poor experience is likely to lead to a permanent loss of a potential customer if unreliable speed causes an issue. For UK fans, 63% would change to a more reliable betting app if the incorrect stats had caused them to lose an in-play bet.

What did you do when you got frustrated?



Note: respondents could select more than one option, with the exception of "I do nothing when I get frustrated."

Insight from the interviews

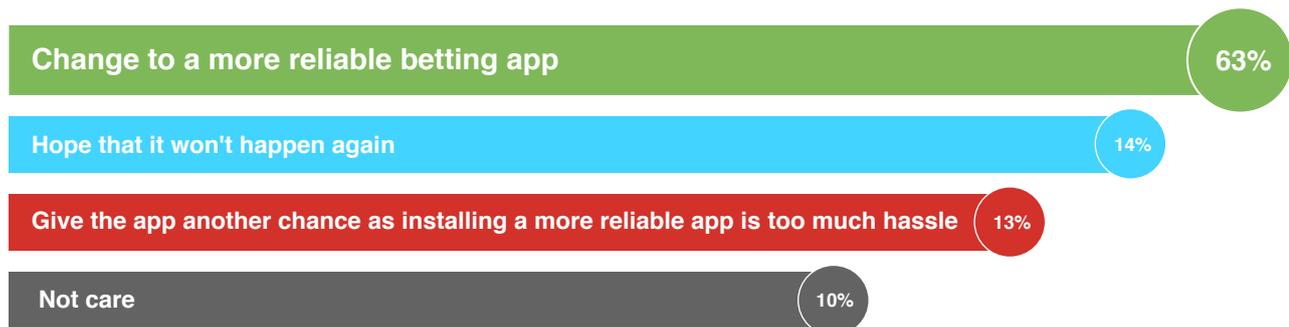
“ Revenues from television are at huge risk. If you look at millennials, their attention span is a little bit different.

You've got to create an environment that allows millennials to be able to consume content quickly and in very short formats.

Ben Davis - CEO, Phizzle

Even when all is going well with their smartphones, fans are still forced to use multiple apps to fulfil their needs. This is a problem that Jakob Hageman, founder of Kiggit speaks about. He points out that consumers, in general, want their online experience to be easy. Football (soccer) fans are just like any other consumer and just as they want booking a flight to be easy, they also want it to be easy to see who scored a goal.

If you had placed an in-play bet and lost because the stats had been incorrect, would you:



What would you do if you were following a live football match on a mobile app and it was slow or not working?

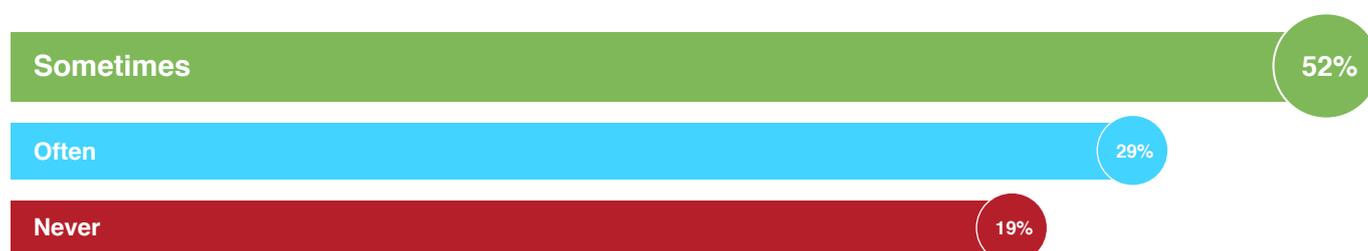


Within football, the research shows that 68% of UK fans would look for another app if it was slow or not working. This is of importance as 80% of these fans are on the move while engaging with the sport.

Another key point to consider is that a primary driver of revenue and fan engagement for the industry is at risk of decline - television.

Today, television is still lucrative and fans are still willing to pay to watch sports in this manner. However, the past couple of years has seen a decrease in viewership of sports on television. Sports Illustrated reported that viewership of the most popular weekly televised NFL games - Sunday Night Football, Monday Night Football and Thursday Night Football - has steadily declined between 2015 and 2017²⁵:

How frequently are you on the move whilst following football matches?



Viewership numbers for the NFL

	2015	2016	2017
NBC's Sunday Night Football	22,522,000	20,323,000	18,175,000
ESPN's Monday Night Football	12,896,000	11,390,000	10,757,000
Thursday Night Football (NBC/CBS/NFL Network)	12,425,000	12,438,000	10,937,000

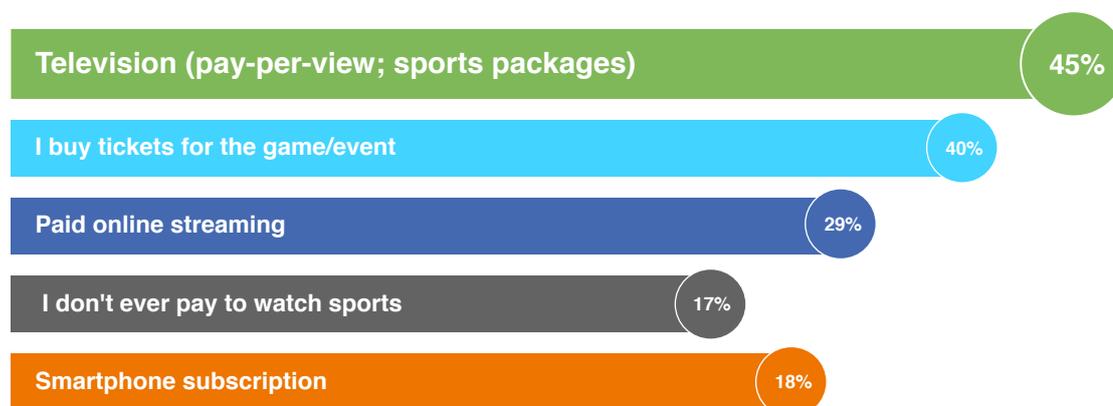
Source: Sports Illustrated

The NFL is not the only professional sport experiencing a decline in television viewers. Premier League football viewership in the UK was down 19% in 2016.²⁶ These declines in television viewership are significant if only because of the monetary value of both of these sports. The NFL earns the highest revenues of all the professional sports in the world. In 2016 the NFL's revenue was US\$13 billion while Premier League football (the third highest revenue making sport) was at US\$5.3 billion.²⁷

There are several possible reasons for the drop in viewers. An oversaturation of matches is one such reason. Both the Premier League and NFL have expanded their televised schedules to show more games throughout the week. Another relevant reason is the ever-increasing cost of sports television packages through telecommunications providers²⁸ and the changes in how fans are consuming sports including mobile and over the internet.²⁹ This includes the rise of over-the-top (OTT) solutions.³⁰ OTT's are content providers 'streaming media as a standalone product directly to consumers over the internet, bypassing telecommunications, multichannel television, and broadcast television platforms that traditionally act as a controller or distributor of such content.' Examples of these services are Netflix, Amazon Video and Hulu (US).³¹

This is reflected in our research, While 45% of survey respondents pay to watch sports on television, 78% also believe that paying to watch sports on television is too expensive. When asked, "Will you stop paying to watch sports on television if the prices increase?" 82% answered yes and that they would find alternative ways to watch.

On which of the following do you ever pay to watch sports?



Note: Respondents could select more than one option with the exception of "I don't ever pay to watch sports."

It is worth noting that the of future watching sports on television is threatened by the younger generation rejecting traditional television viewing for different entertainment options. MIDiA Research showed that in 2017 only 9% of viewers in the US, Canada, Australia and the UK ages 16 - 24 watched sports on television. By comparison, the same research revealed that 36% of those over 55 years old still watched sports on television.³²

Do you find paying to watch sports on television to expensive?



Insight from the interviews

“ Scientific Games was the first and fastest to launch sports betting across all channels in the US with Ceasars. There are a couple of trends that are pretty clear. One - this standard broadcast is becoming less relevant and way consumers are moving to accessing that content is via the internet. And once you do that, you can start having demand-driven access. So I can personally choose what I want to watch rather than wait for a broadcaster to decide what tends to be on at any particular time. So I think that demand-driven, over the internet, in real-time nature of content is one of the key trends. The difference in sports betting is that you're driven by when that sport event happens. I think that's really a powerful factor for both broadcasters. Because you can't just recreate that yourself and then watch it at any time you want. You typically want to watch it in real-time. ”

Matt Davey - CEO, Scientific Games

If watching sports on television is getting more expensive, the same can be said for watching sports live. It is projected that in ten years only those whose income is in the top 10% bracket will be able to attend games in person.³³ There is, therefore a risk (in particular for sports where live television viewing isn't as critical) to existing commercial model.

Will you stop paying to watch sports on television if the prices increase?



Insight from the interviews

“ I stopped using traditional cable and I now use Youtube TV, which I adore. It's been great and it has everything I need. But when you start to see innovations such as those from the NBA next year where they're selling these \$1.99 passes for just the 4th Quarter, that really changes things. For me, selfishly, I'm excited about the concept because it means we'll be able to send an alert that says, 'Hey, this match is going into penalty kicks or LeBron is about to set a record. Do you want to pay 99 cents to watch this right now?' ”

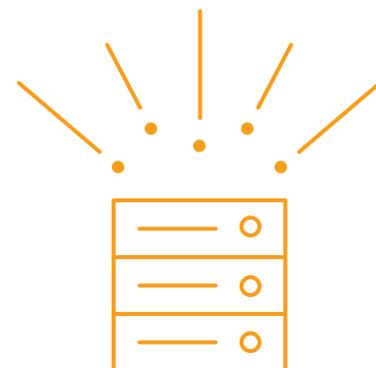
Mark Philip - CEO and Founder, Are You Watching This

The Challenge:

Can existing systems cope?

As we have previously discussed, there are areas of the sports industry and ecosystem that are advanced. Wearables, GPS tracking that monitors player movements and speed and connected stadiums are some examples. However, there are other areas that are lagging behind and are less mature than they need to be. As Ben Davis from Phizzle says:

“Traditionally, many sports teams operated like ‘mom and pop’ shops. CTOs and CIOs are relatively new to sports teams and properties. So, they haven’t had the benefit of really knowing how to technically establish strategies around how they want their businesses to run with data powering critical business processes. And I think, fundamentally, that’s been the barrier for sports teams.”



CTOs and CIOs are relatively new to sports teams and properties. So, they haven't had the benefit of really knowing how to technically establish strategies around how they want their businesses to run

Insight from the interviews

“ I believe we may be at a tipping point in that it no longer makes sense for companies to be building their own solutions when it comes to distributing and consuming sports data.

“Not only does this simplify maintenance and operations, but it also helps reduce 'magpie syndrome' as technology providers focus on complex innovation for solving common problems, rather than companies all spending individually on working out solutions.

Matthew O’Riordan - CEO, Ably

Other sports organisations are eager to adopt new technologies. They are willingly signing on to platforms such as social media and trying out an array of other technologies. The problem is that while they are adopting these technologies they are not architecting them to fit into their experience. Davis explains:

“So when email came online, everyone went out and got an email provider. When it came to mobile, everyone started developing apps and doing mobile marketing. When new technologies came online, sports teams were at the forefront of adoption which was great. However, it created confusing, un-structured, and un-intended architectures versus plugging new technology into well established strategic processes.”

The adoption of technology without proper consideration of how it fits into an overall digital strategy or transformation plan has been described by Neil Perkin as ‘magpie syndrome’ - something that has seen companies falling into this bracket typically being 11% less profitable.³⁴ In these cases, investment of technology is unlikely to have been accompanied by a deep understanding of how using data, people and processes can affect business outcomes.

Even for businesses that are more advanced in their use of data, there is a significant challenge in accommodating the growing volumes required. One such challenge is the volume of data that needs to be distributed. During the 2014 World Cup, Infoplum was one of the early adopters of infrastructure -as-a-service rather than using their own solutions to distribute their data. They used this to deliver 4.8 terabytes. Even more recently, Michael Cole from the European Forum reports that during the 2018 Ryder Cup, “We distributed in the region of 55 terabytes of data over those six days. And that is a phenomenal amount of data that is five times more than it is created and distributed at the Super Bowl.”

Arun Khanna, Managing Director of Infoplum, has discussed the challenge of dealing with data velocity and peaks in demand. There is a need to monitor demand and scale it up when the number of online users goes up. They also must manage the variety of data that is coming through. Infoplum deals with fifteen different sports and because those sports can be completely different from each other in terms of data, they find it difficult to find a standardised structure to use across all sports.

Insight from the interviews

“ In 1995-96, we developed a product called Matchlet® and at those days we had a modem being used with a 256k band rate. And we actually delivered real-time data. So we then developed the graphics capability, which used only six bytes of data per update.

You got to innovate depending on the times. For the World Cup in 2014, we burned quite a few servers, so we were actually, one of the first few to use cloud servers to deliver more than 4.8 terabytes of data for the World Cup in 2014. And that was huge. There were some matches which literally broke these cloud-side servers and it was a tough job.

Arun Khanna - Managing Director, Infoplum

Scientific Games, which provides gambling products and services, also must deal with a variety of data. With anywhere between 5,000 to 50,000 sporting events that a gambler can place a wager on at any point, they are tasked with dealing with a huge volume and variety of data. “Within our business, just on sports betting lines for instance, since our system is priced say something like 60,000 transactions a minute and, and that's quite a huge volume that's bigger than a lot of stock exchanges.”

With the volume and variety of data being processed, accuracy and verification are also major factors can present a challenge. Companies like Scientific Games need, “to provide timely and accurate data that has a strong degree of integrity built into.” This is also true with real-time data such as live scoring. As Kiggit has found with the football news site, accurate live scores are vital.

For data providers, errors in code written by clients can also have significant impacts on performance, particularly in situations where instantly switching off the stream of data would not be the right solution.

With the volume and variety of data being processed, accuracy and verification are also major factors can present a challenge.

Insight from the interviews

“ When there's heavy activity and people are really interested in a game, and our clients are getting a lot of traffic, that creates a heavy load on our servers because that information is being pulled frequently. So, we have to have a scalable infrastructure model. But we still have to make assumptions in terms of spending on infrastructure resources based on what we think the load will be.

We therefore need constant monitoring with rules in place to block unusual surges. If a client has mistakes at their end, they may make excessive requests to our servers, so we have to protect our infrastructure. The difficulty is that we can't block the client the moment they reach their threshold. We have to be proactive in telling them that there is a problem, while also protecting ourselves, as well as making sure their service still runs.

Rajesh D'Souza - Data Sports Group

Even for those ahead of the curve, the volume of data is growing at a rate that poses management challenges in terms of how it should be used to develop new products. And if time is also required to create custom pairings between the producers and consumers of data, a compound effect emerges.

The current situation is already leading to a situation where publishers of data aren't able to fulfil the requests of all their clients, as the complexity of operations and maintenance takes their time away from innovating in terms of the information they can distribute to their customers. As such, there is already an opportunity cost that the industry appears to be paying.

The demand for data will only get greater once technology such as 5G mobile networks become a reality. The release of these networks are just around the corner and promise to be faster, have lower latency and greater capacity than current 4G networks. They will enable quicker downloads in greater quantity and more reliable streaming.³⁵ The improved capabilities provided by more advanced mobile networks will only increase fan and gambler expectations for what they can view and the information they can access via their smartphones.

And while it's a received wisdom that the volumes of data are growing exponentially in the world (and according to IDC will reach 163 zettabytes in 2025³⁶) one lesser discussed point is the same is believed to be happening in terms of technological capability. According to Scott Brinker, technology changes exponentially while organisations change logarithmically. So, as technology continues to change steadily and rapidly, convincing organisations to change their thinking and behaviours is not only challenging, it's a slow process.

Insight from the interviews

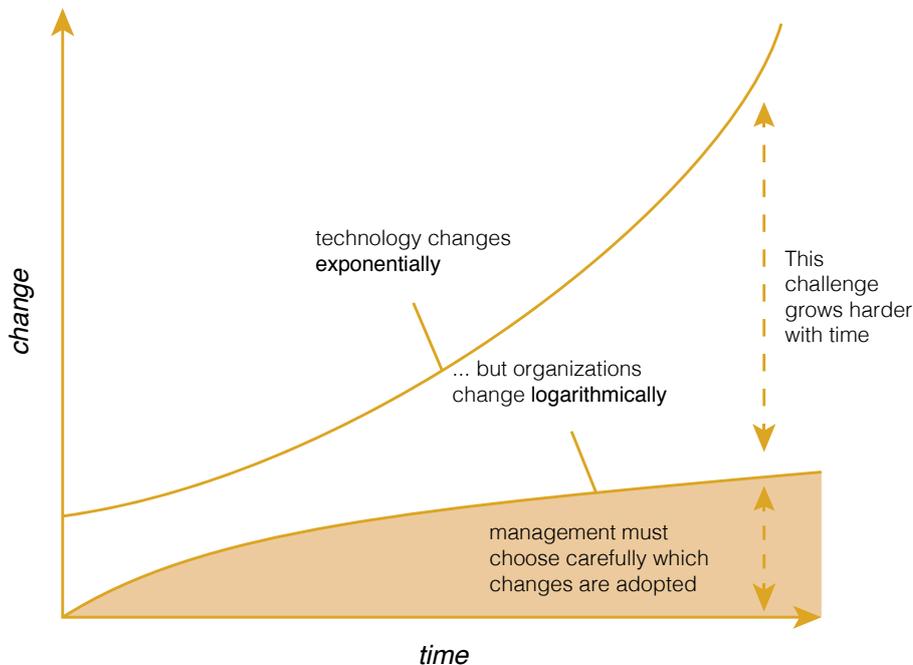
“ As the volume of data goes up and also the number of participants going up, this creates a compounding factor in terms of data distribution. If every participant has a pairing - so for example, 20 sports leagues publishing a statistic to a thousand sportsbook or media companies - we end up with 20,000 pairings in total. All of these connections need custom work and engineering time.

But what's interesting is we only really need 20 statistics to go to 1,000 companies. If we had these 20 sports leagues publishing their data to one hub, and those thousand others consuming that data from that hub, we end up with only 1,020 pairings in total. Furthermore, those leagues publishing the data should only have to publish that statistic once - by sending it to the hub, via one connection. So each league publishes one statistic via one integration to the hub, as opposed to each having 1,000 integrations and being required to publish each statistic 1,000 times. This significantly reduces complexity, and allows those that produce data to accommodate exponentially growing volumes.

Matthew O’Riordan - CEO, Ably

“It takes time for people to alter their thinking and their behavior. With groups of people, where there are existing structures, processes, incentives, and cultural momentum, it takes even more effort to turn the ship. The larger the group, the greater the institutional resistance.”³⁷

So what should the sports industry be doing in order to both increase its overall maturity and deal more effectively with the rise in data volume and its associated challenges?



Source: Scott Brinker, Chiefmartech.com

Insight from the interviews

“ For us, there's a lot of information that clients want, and we want to add, but there's only so many hours in the day, and you can't necessarily just add every single thing that everyone wants.

The more information you have, the better products are, and you can upsell that content to the client. But even just collecting all the data that we collect now, it takes a lot of time from the operations standpoint to maintain and keep all that data collection and distribution running smoothly. It takes a lot of work on the maintenance side.

Scott Gimpel - President and CEO, Fantasy Data

The Future:

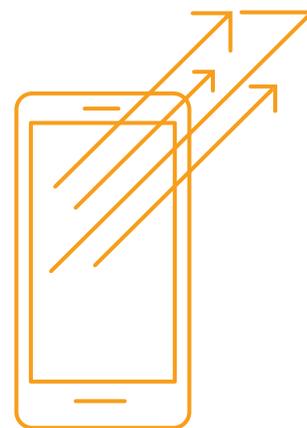
Staying ahead of the game

The previous sections to this report have highlighted the changes that are happening in the sports industry, from shifting consumer behaviours to the growth of technology, as well as the challenges associated with these changes.

In the face of potential risks, the industry will need to adapt in order to stay relevant to fans and to make the most of the new opportunities present. This means removing barriers to innovation through introducing efficiencies to common ways of using data.

With producers and consumers of data each taking their own approaches to integrating different datasets (both internally and externally), the sports industry is likely to be spending significant engineering resources through duplicated efforts, and making sunk investments that make it unpalatable to change approach.

Another issue is that even if the industry was to agree to a common set of standards, they can take many years to implement.



In the face of potential risks, the industry will need to adapt in order to stay relevant to fans and to make the most of the new opportunities present.

Insight from the interviews

“ Open standards such as HTML, which are so widely adopted, have unfortunately been slow to evolve to meet these demands because it requires working groups to agree on complex and often backwards incompatible changes. For example, HTML5 first became a working draft proposal in 2008, and was only released as stable version 6 years later in 2014.³⁸ ”

Matthew O’Riordan - CEO, Ably

As standards therefore take too long to become adopted and embedded, accommodating both a huge growth in data the requirement for it to be delivered quickly is unlikely to come from this approach. This has the risk of reducing bottom-up innovation.

Because there are no standards, it makes it very hard for small to medium businesses to participate in this new realtime data economy. The costs to integrate, maintain and run systems that can publish and subscribe to realtime data is going to be prohibitively expensive from both an engineering perspective and even an infrastructure perspective.

“Efficiencies will come from removing the need for producers and consumers of data to build integrations separately, a democratization of access to data for independent developers and a focus on speed.”

The alternative is to look at more efficient ways of distributing data. If those creating and publishing data distribute it through hubs or exchanges this drastically reduces the number of single-point connections that are made and the total volume of data that publishers need to send out, allowing them to spend more time innovating and to serve customers that otherwise would have not been commercially viable to engage with.

Efficiencies will come from removing the need for producers and consumers of data to build integrations separately, a democratisation of access to data for independent developers and a focus on speed

Insight from the interviews

“ There's inertia when you choose a data provider. If you want to make a switch you'll get pushback from your technical team: `Wait a second, we need to rebuild everything because we've been relying on Provider X and we're moving to Provider Y?` It's like switching from Spanish to German a lot of times.

The indie players, the small shops, the college kid that wants to build something new and interesting - they all get shut out because data is so expensive.

Mark Philip - CEO and Founder, Are You Watching This?

Rethink how data can be used to power entertainment in a different consumer landscape

As television viewership declines and more and more sports fans 'cut the cord', turning to alternative methods of viewing sports such as online or mobile streaming sites, providers should rethink how data can be used to create entertainment that fits today's consumer landscape.

Some sports leagues have adapted in interesting ways that go beyond traditional television viewing. For example, the NBA has been trialling selling live streams of the fourth quarter of games for 99 cents via push notification.³⁹ In-play bets also offer the opportunity to increase the enjoyment of sports for fans that might not even be watching the game but may be on the move.

The online communities that have emerged organically are also a representation of how fans are connecting with each other in ways that would not have been possible some years ago, but sports clubs have been slow to commercialise them⁴⁰ or add further value to fans.

With this in mind, it is advised that providers access how their data can fuel this entertainment mindset that maximises commercial opportunities at scale through realtime and personalised offerings ready for the mobile age.

Data should be seen as a critical commercial asset that futureproofs the industry

From the point at which action happens, right through to the way in which a fan engages, there are many different parties involved with sports data before it reaches the end user.

Given the challenges in making use of this growing volume of data, the overall exploited commercial value is likely to be far short of its overall potential. In the face of threats to existing commercial models, the industry as a whole should be viewing data as a critical commercial asset rather than an incremental revenue stream. The strategy for selling data rights should be different to that sold for media rights in order to make the greatest commercial impact.

In an environment where innovation is challenging, there is also a risk that data gets disseminated in applications that serve the needs of fans but fails to appropriately license such data. While video fingerprinting is in use for television broadcast, the open sale of hardware that defeats this⁴¹ illustrates that those looking to profit from future applications of data are likely to be ahead of the curve when they emerge.

Given the rate of change, the sports industry should look to make the best use of data for all applications and across the entire value chain. Without this approach, long-term revenues will be at significant risk.

Insight from the interviews

“ It's not just about gambling anymore. It's about the entertainment. ”

Matt Davey - CEO, Scientific Games

Listed web links

1. [Canvas8](#)
2. [NFL.com](#)
3. [MarketWatch.com](#)
4. [Nielsen.com](#)
5. [Reuters.com](#)
6. [Consultancy.uk](#)
7. [PewResearchCenter.org](#)
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30. [PwC](#)
31. [Wikipedia.com](#)
32. [MIDiA Research](#)
33. [Gannett](#)
34. [Neil Perkin.com](#) (quoting research by Capgemini)
35. [5G.co.uk](#)
36. [IDC](#)
37. [Chiefmartec.com](#)
38. [Aby.io](#)
39. [Marketingdive.com](#)
40. [DigitalSport.com](#)
41. [Irdeto](#)

About Abyl Realtime

To find out more about trends in the sports data industry, and how these affect your business, get in touch.

Abyl is the leading realtime data stream network with 100% uptime and message delivery guarantee, low latency, unlimited scale

and sophisticated data retrieval options. Every day we stream billions of messages between devices - browsers, phones, servers and appliances - for our customers such as Tennis Australia, Hubspot

and Yahoo in over 60 countries around the world. From instantaneous score updates for sports fans, to vehicle positions for logistics systems and prices for financial markets, we can be relied upon for mission-critical realtime services in any context.

Abyl's new Data Stream Exchange (DSX) supercharges streaming APIs, allowing companies to swap vital information faster, more simply, and in greater volumes than ever before. Built on Abyl's proven global Data Stream Network, DSX lets you deliver data to as many consumers as you need to — including to end-customers' devices. DSX puts you in control of your data, allowing you to monetize its distribution and giving you the operational tools you need to publish it efficiently — including analytics, security, billing & developer portals.

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